APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,701	02/14/2001	Rong Pan	STFD.009PA	6340

40581   7590   01/16/2007
CRAWFORD MAUNU PLLC
1270 NORTHLAND DRIVE, SUITE 390
ST. PAUL, MN 55120

EXAMINER
NGUYEN, STEVEN H D

ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	09/783,701	PAN ET AL.
	Examiner	Art Unit	
	Steven HD Nguyen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>27 October 2006</u>.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-27</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-27</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 10/27/06 has been entered.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3.   Claims 1-27 rejected under 35 U.S.C. 102(a) as being anticipated by Prabhakar (ACM).

Regarding claims 1-2, 11-13, 19-20 and 22, Prabhakar discloses a method for managing a

queue susceptible to unbalanced bandwidth allocation, comprising detecting a matching flow

identification between a recently-received incoming packet with at least one packet selected from

a set of outgoing packets by comparing the flow identification of the recently-received incoming

packet with the flow identification of said at least one packet selected from a set of outgoing

packets; and in response, mitigating unbalanced bandwidth allocation due to congestion problem

flows by reducing the processing priority of at least one of said at least one selected packet, and

the recently-received packet, wherein the incoming packet is not a retransmission of said at least

one selected packet (Page 2, Last Para and Pages 3-5, Sec 3 discloses a method for comparing

the flow ID of the stored packet with new arrived packet and dropping at least one of the stored

packet and new arrived packet).

Regarding claims 3-4, 21 and 23-25, Prabhakar discloses quantifying congestion-problem

flows, and assigning a processing priority to the quantified congestion-problem flows as a

function of the quantification wherein the processing priority includes dropping more candidate

packets as the number of unresponsive flows increases, and wherein mitigating unbalanced

bandwidth allocation and reducing the processing priority includes using a stateless FIFO queue,

and further including quantifying unresponsive flows, and dropping more candidate packets as

the number of unresponsive flows increases (Page 2, Last Para and Pages 3-5, Sec 3 discloses the

unresponsive flow is identified and dropping the packets belong to it when the number of

unresponsive flows increasing).

Regarding claims 5, 15 and 26, Prabhakar discloses selecting said at least one packet

from the set of outgoing packets as a function of a random probability (Pages 3-5, Sec 3).

Regarding claims 6 and 27, Prabhakar discloses said at least one packet includes a

plurality of packets (Page 3, the first par).

Regarding claim 7, Prabhakar discloses reducing the processing priority includes

dropping said at least one selected packet (Page 4, First Par).

Regarding claim 8, Prabhakar discloses reducing the processing priority includes dropping

the recently-received packet (Page 4, First Par)..

Regarding claims 9 and 16, Prabhakar discloses including selecting said at least one packet from the set of outgoing packets as a function of a probability corresponding to the location of the selected packet in the queue (Page 4, First Par).

Regarding claims 10 and 17, Prabhakar discloses including selecting said at least one packet from the set of outgoing packets as a function of a probability corresponding to a misbehaving flow (Pages 3-5, Sec 3).

Regarding claim 14, Prabhakar discloses prioritize the flow of packets in a queue according to identification codes associated with the respective packets (Fig 17).

Regarding claim 18, Prabhakar discloses the system is a network router node that routes internet protocol packets between other nodes in the network (Fig 1).

4.   Claims 1-27 rejected under 35 U.S.C. 102(a) as being anticipated by Prabhakar (CiteSeer)

Regarding claims 1-2, 11-13, 19-20 and 22, Prabhakar discloses a method for managing a queue susceptible to unbalanced bandwidth allocation, comprising detecting a matching flow identification between a recently-received incoming packet with at least one packet selected from a set of outgoing packets by comparing the flow identification of the recently-received incoming packet with the flow identification of said at least one packet selected from a set of outgoing packets; and in response, mitigating unbalanced bandwidth allocation due to congestion problem flows by reducing the processing priority of at least one of said at least one selected packet, and the recently-received packet, wherein the incoming packet is not a retransmission of said at least one selected packet (Page 2, This paper to page 4, the out going line and Fig 1 discloses a

method for comparing the flow ID of the stored packet with new arrived packet and dropping at

least one of the stored packet and new arrived packet).

Regarding claims 3-4, 21 and 23-25, Prabhakar discloses quantifying congestion-problem

flows, and assigning a processing priority to the quantified congestion-problem flows as a

function of the quantification wherein the processing priority includes dropping more candidate

packets as the number of unresponsive flows increases, and wherein mitigating unbalanced

bandwidth allocation and reducing the processing priority includes using a stateless FIFO queue,

and further including quantifying unresponsive flows, and dropping more candidate packets as

the number of unresponsive flows increases (Page 2, This paper to page 4, the out going line and

Fig 1 and Pages 8-10 discloses the unresponsive flow is identified and dropping the packets

belong to it when the number of unresponsive flows increasing).

Regarding claims 5, 15 and 26, Prabhakar discloses selecting said at least one packet

from the set of outgoing packets as a function of a random probability (Fig 1).

Regarding claims 6 and 27, Prabhakar discloses said at least one packet includes a

plurality of packets (Fig 1).

Regarding claim 7, Prabhakar discloses reducing the processing priority includes

dropping said at least one selected packet (Fig 1).

Regarding claim 8, Prabhakar discloses reducing the processing priority includes

dropping the recently-received packet (Fig 1).

Regarding claims 9 and 16, Prabhakar discloses including selecting said at least one

packet from the set of outgoing packets as a function of a probability corresponding to the

location of the selected packet in the queue (Page 3, Choke algorithm and Page 9).

Regarding claims 10 and 17, Prabhakar discloses including selecting said at least one packet from the set of outgoing packets as a function of a probability corresponding to a misbehaving flow (Fig 1 and Page 8).

Regarding claim 14, Prabhakar discloses prioritize the flow of packets in a queue according to identification codes associated with the respective packets (Page 1).

Regarding claim 18, Prabhakar discloses the system is a network router node that routes internet protocol packets between other nodes in the network (Figs 2 and 8).
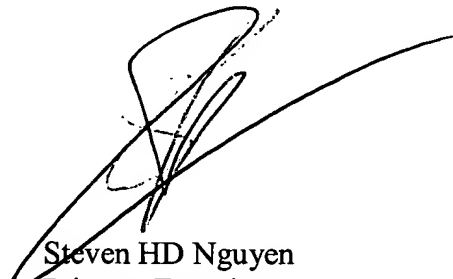
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven HD Nguyen
Primary Examiner
Art Unit 2616